**The HCI Literature**

**Textbooks**:

These two textbooks provide a good way-in to many topics.

Dix, A., Finlay, J., Abowd, G., & Beale, R. *Human Computer Interaction*. Prentice-Hall. Various editions. See http://www.hcibook.com/

Preece, J., Rogers, Y., & Sharpe, H. *Interaction Design: Beyond Human-Computer Interaction*, John Wiley and sons.  
  
  
**Journals** (in my opinion the first two are the best)

\*Transactions on Computer Human Interaction (ToCHI)

(Available Online Here:

http://tochi.acm.org/)  
\*Human-Computer Interaction

(Available Online Here: http://www.tandfonline.com/loi/hhci20#.UwzdZ16lgg8)

International Journal of Human Computer Studies

Interacting with Computers  
  
**Conferences** (the first two are the best)

\*CHI – ACM conference on human factors in computing systems

CSCW - ACM conference on computer-supported cooperative work

Interact – IFIP conference on human-computer interaction  
HCI – BCS conference on human-computer interaction

**For the coursework assignment, the target article must have been published since 2012, in one of the sources marked \***

**TOPICS (With 2 illustrative “starting” references)**

**Persuasive Technology**

How might computer technologies be designed to encourage behavioural change for users' benefit and for the benefit of society at large? In recent years, this question has motivated a range of research under the title 'Persuasive Technology'. Especially current, in the light of government policy, is the potential for mobile and ambient technologies to 'nudge' behaviour change. In this coursework assignment you would review some of these developments, question what they have in common, and reflect on how a design science might be developed to tackle these questions. Important background is in the psychology of persuasion and influence.

Fogg, B. J. (2002). Persuasive technology: using computers to change what we think and do. *Ubiquity*, *2002*(December), 5.

Oinas-Kukkonen, H., & Harjumaa, M. (2008). A systematic framework for designing and evaluating persuasive systems. In *Persuasive Technology* (pp. 164-176). Springer Berlin Heidelberg.

**Crisis Informatics**

This title is taken from a session at the 2010 CHI conference. Two related issues: how might systems be engineered to allow rapid adaptive responses to emergencies? How are existing web systems deployed in emergencies (e.g. in war zones, during earthquakes etc)? As in all the coursework, the overarching question is to understand the relations between user needs and system design so as to inform future designs.

Palen, L., Vieweg, S., Sutton, J., Liu, S. B., & Hughes, A. L. (2007). Crisis informatics: Studying crisis in a networked world.”. In *Proceedings of the Third International Conference on E‐Social Science*.

Vieweg, S., Hughes, A. L., Starbird, K., & Palen, L. (2010, April). Microblogging during two natural hazards events: what twitter may contribute to situational awareness. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 1079-1088). ACM.

**Search and Sensemaking**

How do people search for information, how does it relate to their current tasks? The coursework means reviewing the work of Pirolli (he has a book on information foraging!) to assess what the implications are for information searching. This topic also relates to scent following where users follows trails, breadcrumbs or links between information.

Pirolli, P., & Card, S. (1999). Information foraging. *Psychological Review*, *106*(4), 643.

Russell, D. M., Stefik, M. J., Pirolli, P., & Card, S. K. (1993, May). The cost structure of sensemaking. In *Proceedings of the INTERACT'93 and CHI'93 conference on Human factors in computing systems* (pp. 269-276). ACM.

**Information Visualisation**

How should complex data best be presented to decision makers? The field of Information Visualisation ('InfoVis') has grown rapidly in recent years as designers of interactive software have targetted this issue. There is important background research in Exploratory Statistics as well as in the Psychology of Decision Making (especially multi-dimensional decision making). Additionally there are plenty of interesting theory-based research products - see for example the edited collection by Card, Mackinlay and Shneiderman; and more recent journal articles.

Card, S. K., & Mackinlay, J. (1997, October). The structure of the information visualization design space. In *Information Visualization, 1997. Proceedings., IEEE Symposium on* (pp. 92-99). IEEE.

Pinker, S. (1990). A theory of graph comprehension. *Artificial intelligence and the future of testing*, 73-126.

**Human (HCI) aspects of security/trust**

There are many different perspectives on this coursework so you have some flexibility in your choice of issue. When we e-shop how do we know that we can trust the website that we are using? What changes our perception, or the actual level of trust? How can we design to engender trust in potential customers? Can you find any design requirements for systems where trust is an issue, or can you develop your own?

There is a substantial HCI literature on this issue.

Lee, J., & Moray, N. (1992). Trust, control strategies and allocation of function in human-machine systems. *Ergonomics*, *35*(10), 1243-1270.

Jøsang, A., Ismail, R., & Boyd, C. (2007). A survey of trust and reputation systems for online service provision. *Decision support systems*, *43*(2), 618-644.

**Multitasking**

A growing empirical literature testifies to the difficulties of modern information workers with multi-tasking and information overload. Information workers are interrupted often, and, further, interrupt themselves by willfully switching between tasks. Some researchers have even proposed that 'addiciton' is a common problem in our relation to email and other information sources. How can technologies and organizational protocols be designed with these problems in mind?

Henderson Jr, D. A., & Card, S. (1986). Rooms: the use of multiple virtual workspaces to reduce space contention in a window-based graphical user interface. *ACM Transactions on Graphics (TOG)*, *5*(3), 211-243.

Salvucci, D. D., & Taatgen, N. A. (2008). Threaded cognition: an integrated theory of concurrent multitasking. *Psychological review*, *115*(1), 101.

**Social Networking**

How does the availablity of social networking tools like Facebook affect friendship? Does the ready availablity of broadcast, e-communications and persistent memory for communications mean that people are able to maintain more friendships at higher levels of closeness, or does it shift preferences away from close friendships toward weaker ties? Consider work from antrhopology (e.g. Robin Dunbar’s work on social networks) which posits limits on the number of friendships at different intimacy levels.

Wellman, B., Salaff, J., Dimitrova, D., Garton, L., Gulia, M., & Haythornthwaite, C. (1996). Computer networks as social networks: Collaborative work, telework, and virtual community. *Annual review of sociology*, 213-238.

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook “friends:” Social capital and college students’ use of online social network sites. *Journal of Computer‐Mediated Communication*, *12*(4), 1143-1168.